

इंटरनेट

मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 11967-1-2 (1987): Radio Frequency Coaxial Cables, Part 1: Solid Polyethylene, Section 2: Flexible, Type R 50-3-A02
[LITD 6: Wires, Cables, Waveguides and Accessories]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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Indian Standard
SPECIFICATION FOR
RADIO FREQUENCY COAXIAL CABLES
PART 1 SOLID POLYETHYLENE
Section 2 Flexible, Type R 50-3-A02

0. General — IS : 5026-1987 'General requirements and tests for radio frequency cables (*first revision*)' is a necessary adjunct.

1. Outline Drawing — See Fig. 1.

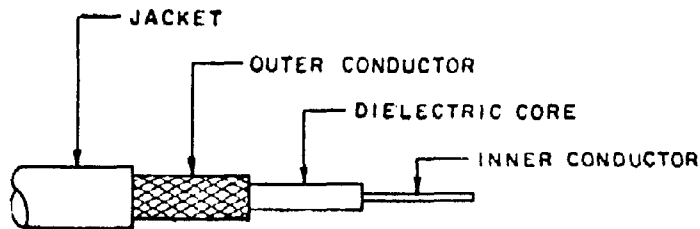


FIG. 1 CONFIGURATION

2. Construction — See Table 1.

3. Requirements

3.1 Dimensions, Configuration, and Description — See Fig. 1 and Table 1.

TABLE 1 DESCRIPTION			
SI No. (1)	Components (2)	Construction Details (3)	
i)	Inner conductor	Nineteen strands of tinned copper wire, each strand 0.18 mm dia. Overall dia 0.90 ± 0.05 mm	
ii)	Dielectric core	Type A-1 Diameter	Solid polyethylene 2.94 ± 0.10 mm
iii)	Outer conductor	Single braid of 0.13 mm tinned copper wire Diameter 3.81 mm, <i>Max</i>	
		Coverage	92.8% nominal <i>Alternate</i> 94.2% nominal
		Carriers	12 16
		Ends	9 7
		Picks/cm	$3 \pm 10\%$ $4 \pm 10\%$
iv)	Jacket	Type IIa Diameter	PVC 4.95 ± 0.10

Adopted 20 April 1987

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Gr 2

3.2 Environmental and Mechanical

Visual and mechanical examination	
Out of roundness	Not applicable
Eccentricity	10 percent, maximum
Adhesion of conductors	
Inner conductor to core	22 N, minimum; 67 N, maximum
Ageing stability	$+ 98 \pm 2^{\circ}\text{C}$
Stress crack resistance	Not applicable
Outer conductor integrity	Not applicable
Cold bend*	$- 55 \pm 2^{\circ}\text{C}$
Flow	2.7 kg
Dimensional stability	$+ 85^{\circ} \pm 2^{\circ}\text{C}$
Inner conductor from core	1.6 mm, maximum
Inner conductor from jacket	3.2 mm, maximum
Contamination*	Applicable
Bendability	Not applicable
Flammability	Not applicable

3.3 Electrical

Continuity	Applicable
Spark test	5 000 Vrms, minimum
Voltage withstanding	5 000 Vrms, minimum
Insulation resistance	20 000 megohm. km, minimum
Corona extinction voltage	1 900 Vrms, minimum
Characteristic impedance	50 ± 2 ohms
Attenuation	See Fig. 2
Structural return loss*	See Fig. 3
Capacitance	105.6 pF/m, maximum
Capacitance stability	Not applicable
Capacitance unbalance	Not applicable
Transmission unbalance	Not applicable
Mechanically induced noise voltage	Not applicable
Time delay	Not applicable
Screening efficiency	Under consideration

4. Engineering Information

Continuous working voltage	1 400 Vrms, maximum
Operating frequency	1 GHz, maximum
Velocity of propagation	65.9 percent, nominal
Power rating	See Fig. 2
Operating temperature range	$- 40^{\circ}$ to $+ 85^{\circ}\text{C}$
Weight*	43 g/m, nominal
Inner conductor properties	
DC resistance (maximum at 20°C)	48.54 ohms/km
Elongation	10 percent, minimum

Note — This cable is useful in general purpose low temperature applications.

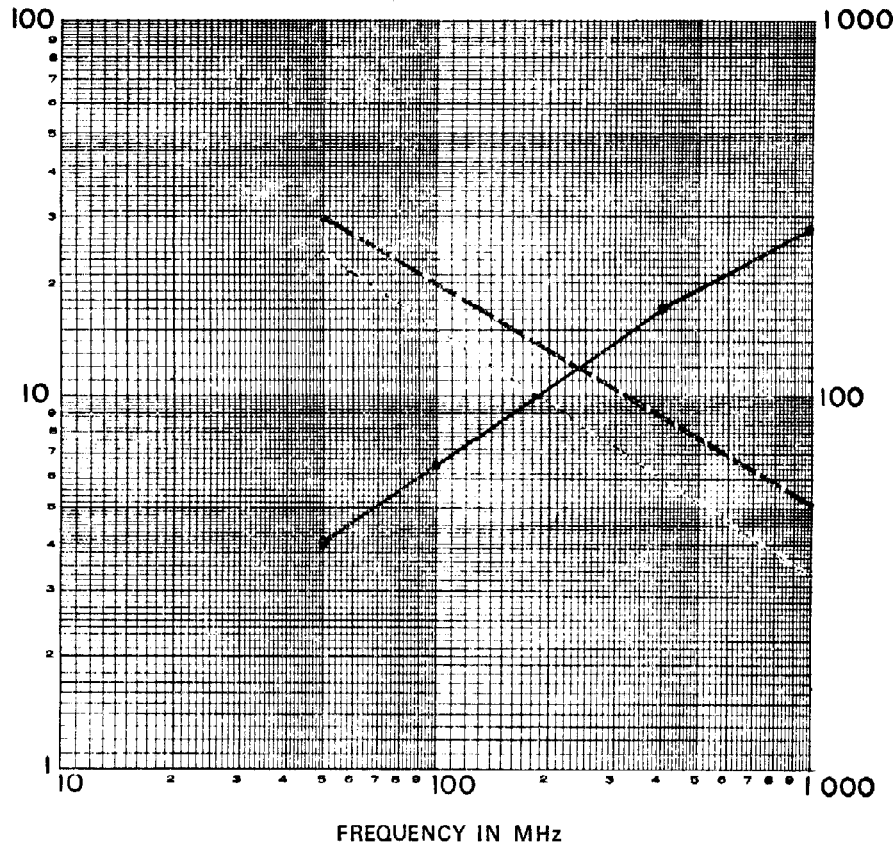
EXPLANATORY NOTE

This standard is based on MIL-C-17/28C — RGO 58 (1985) issued by Department of Defence, USA; and Style WRA-02A of JSS 51100 (1974) issued by Ministry of Defence, India.

When specially required.

ATTENUATION dB PER 30.48 m

WATTS



Frequency MHz	Attenuation dB		Power Watts
	Per 30.48 m	Per 100 m	
50	4.0	13.1	300
100	6.5	21.3	200
200	10.5	34.4	130
400	17.0	55.8	90
1 000	28.0	91.8	55

Note — In view of difficulties in getting suitable grades of polyethylene, certain parameters, like attenuation, are required to be reviewed later based on experience gained.

FIG. 2 POWER RATING AND ATTENUATION

RETURN LOSS dB

MINIMUM STRUCTURAL RETURN LOSS

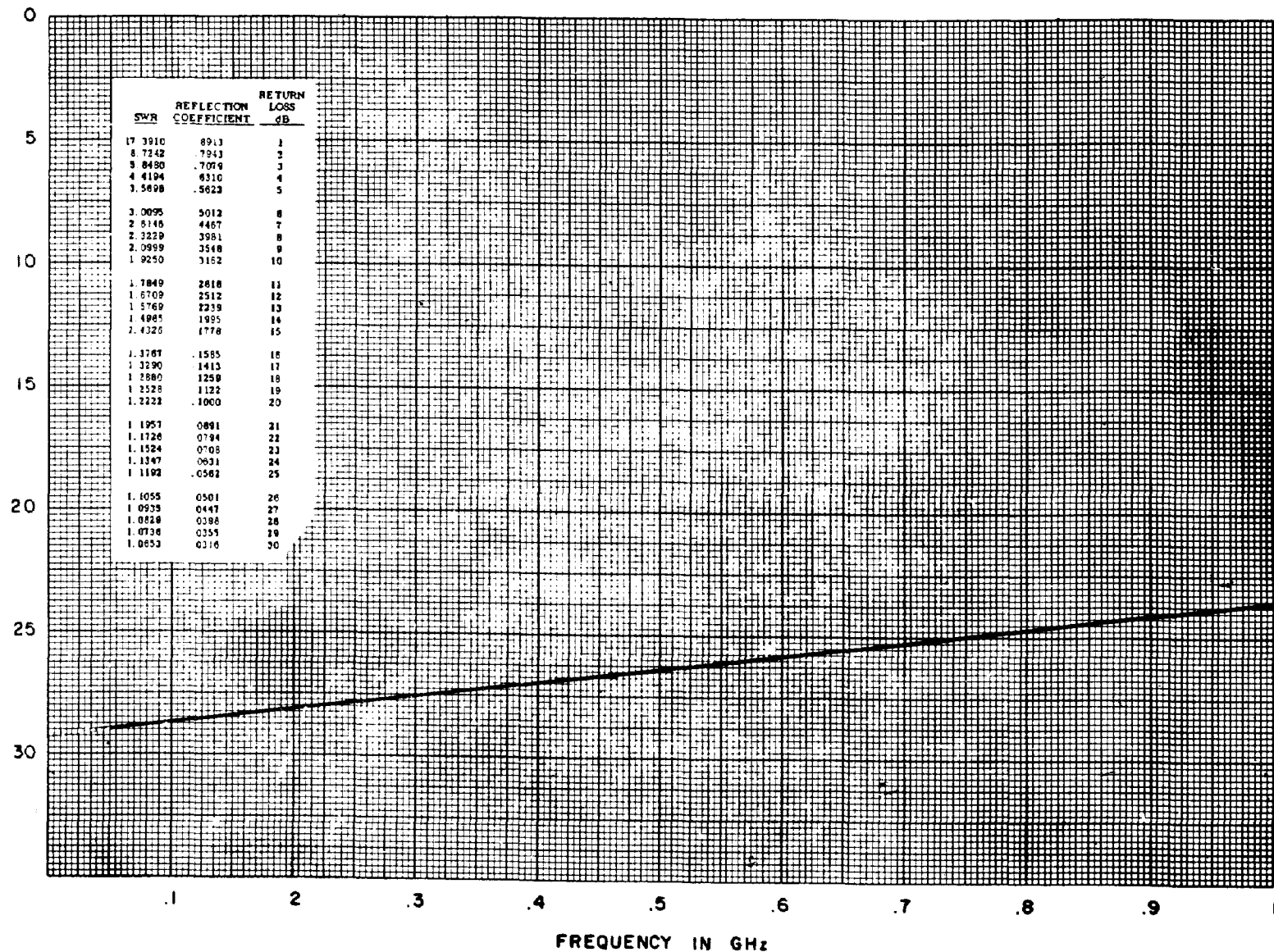


FIGURE 3. Structural return loss.